

Remarks

The Applicants note with appreciation the Examiner's acknowledgment of the Applicants' Amendment to the Specification and Claims 1, 6, 7 and 15 in the paper submitted August 21, 2003. The Applicants have canceled Claims 2-6 and Claims 8-17. Further, the Applicants have attended to the correction of minor informalities.

The Applicants note that SEQ ID NO: 45 in Claim 4 should have referred to SEQ ID NO: 52 to reflect the Applicants' amended sequence listing submitted April 8, 1999. Accordingly, the Applicants have identified SEQ ID NO: 52 in amended Claim 1.

In accordance with the Examiner's helpful suggestions in the recent interview, the Applicants have amended Claim 1 to incorporate the subject matter of Claims 2 and 4, as well as identify other structural components of the Applicants' bacterial reverse transcriptase (RT). Further, the Applicants have identified a fifth bacterial RT amino acid structural motif comprising Gly-Xaa_n-Pro. Support for this motif can be found in Fig. 14 of the Applicants' Specification.

The Applicants submit a Declaration under 37 C.F.R §1.130 that is signed by the Applicants' representative. The Applicants respectfully submit that the Declaration, along with the Terminal Disclaimers filed June 21, 1999, removes the Applicants' U.S. Patents 5,320,958 (US '958) and 5,434,070 (US '070) as prior art. For the Examiner's convenience, the Applicants enclosed herewith a copy of MPEP §718, which describes the context under which a §1.130(a) Declaration may be used to disqualify commonly owned patents as prior art.

Claim Rejections Under 35 U.S.C §112 First Paragraph

Claims 15 and 16 have been rejected under 35 U.S.C §112 first paragraph. The Applicants have canceled Claims 15 and 16, and as a result the rejection is now moot.

Claim Rejection under 35 U.S.C §112 Second Paragraph

Claims 1, 2, 4-6, 12, and 15-17 have been rejected under 35 U.S.C §112, second paragraph. The Applicants have canceled Claims 2, 4-6, 12 and 15-17. As a result, the rejection of these claims is now moot. In view of the Examiner's helpful suggestion, the Applicants have removed parenthesis surrounding sequence identifiers.

The Applicants respectfully submit that the Amendment dated August 29, 2003 removed the phrase "substantially homologous." Nevertheless, the Applicants respectfully submit that currently amended Claim 1 does not include the phrase "substantially homologous."

In view of the foregoing, the Applicants respectfully submit that the rejection of Claim 1, under 35 U.S.C §112, second paragraph, is now obviated.

Claim Rejections Under 35 U.S.C §102(b)

Claims 1, 2, 5, 6, 8, 10, 15 and 16 have been rejected under 35 U.S.C §102(b) as being anticipated by Lim and Maas. The Applicants have canceled Claims 2, 5, 6, 8, 10, 15 and 16. As a result, the rejection of those claims is now moot.

The Applicants respectfully submit that, in light of the amendment to Claim 1, the rejection is now obviated. Namely, the Applicants respectfully submit that incorporation of the subject matter of Claim 4 into Claim 1 obviates the rejection of Claim 1 as anticipated by Lim and Maas.

In view of the foregoing, the Applicants respectfully submit that Lim and Maas fails to disclose the Applicants' claimed RT. Withdrawal of the rejection of Claim 1 under 35 U.S.C. §102(b) as anticipated by Lim and Maas is respectfully requested.

Claim Rejections Under 35 U.S.C. §103(a)

Claims 1, 2, 4-8, and 15-17 have been rejected under 35 U.S.C. §103(a) as unpatentable over either of US '958 or US '070 in view of Rice, Xiong, and Hsu. The Applicants have canceled Claims 2, 4-6, 8 and 15-17 and, as a result, the rejection of these claims is now moot.

The Applicants respectfully submit that the rejection of Claims 1 and 7 is obviated in view of the Applicants' §1.130 Declaration. The Applicants respectfully submit that the Applicants' §1.130 Declaration removes commonly owned US '958 and US '070 as prior art. In particular, 37 C.F.R. §1.130(a) states:

(a) When any claim of an application or a patent under reexamination is rejected under 35 U.S.C. 103 on a U.S. patent or U.S. patent application publication which is not prior art under 35 U.S.C. 102(b), and the inventions defined by the claims in the application or patent under reexamination and by the claims in the patent or published application are not identical but are not patentably distinct, and the inventions are owned by the same party, the applicant or owner of the patent under reexamination may disqualify the patent or patent application publication as prior art. The patent or patent application publication can be disqualified as prior art by submission of:

(1) A terminal disclaimer in accordance with §1.321(c); and

(2) An oath or declaration stating that the application or patent under reexamination and patent or published application are currently owned by the same party, and that the inventor named in the application or patent under reexamination is the prior inventor under 35 U.S.C. 104.

The Applicants respectfully submit that the §1.130 Declaration indicates that the inventors named in the pending application are the prior inventors under 35 U.S.C. §104. Further, the §1.130 Declaration notes that the inventors, named in the Application, invented the claimed subject matter before the actual date of invention of the subject matter of the reference claims. Further, the Applicants respectfully submit that MPEP §718 provides that the §1.130 Declaration "may be signed by the inventor(s), the attorney or agent of record, or assignee(s) of the entire interest."

The Applicants respectfully submit that US '958 and US '070 are not prior art under 35 U.S.C §102(b). 35 U.S.C §102(b) requires that "the invention was patented or described in a printed publication...more than one year prior to the of the application for patent in the United States." (Emphasis added).

The current continuation application has an effective filing date of June 30, 1994, based on its priority to continuation Application No. 08/269,118 filed on June 30, 1994. Hence, the current application has an effective filing date within a year of the issue of US '070 and US '958. Specifically, the US '070 and US '958 patents issued on July 19, 1995 and June 13, 1994, respectively. Consequently, the aforementioned patents did not issue into valid U.S. patents more than one year before the date of the application for patent in the current application.

In view of the foregoing, the Applicants respectfully submit that the Applicants have satisfied the requirements set forth for a Declaration submitted under 37 C.F.R. §1.130(a). Accordingly, the Applicants submit that US '070 and US '958 are not prior art. Withdrawal of the rejection of Claims 1 and 7 as unpatentable over either of US '958 or US '070 in view of Rice, Xiong, and Hsu is respectfully requested.

Claims 1, 2, 4-6, 8 and 15-17 have been rejected under 35 U.S.C. §103(a) as unpatentable over Hsu in view Lim and Maas. The Applicants have canceled Claims 2, 4-6, 8 and 15-17. As a result, the rejection of the claim is now moot.

Turning to the rejection of Claim 1, the Applicants respectfully submit that as a result of the amendment to Claim 1, incorporating five amino acid structural motifs found across all bacterial reverse transcriptases that synthesize msDNA, the rejection is now obviated. The

Applicants respectfully submit that Hsu merely indicates the similarity of RTs between *M. xanthus* and *S. aurantiaca*. The Examiner is invited to page 2385 of Hsu, which states:

In contrast to *M. xanthus*, only 13% of *E. coli* natural isolates contain retrons, and these retrons show substantial diversities in their primary sequences and sizes of msDNAs, mdsRNAs, and RTs (for reviews, see references 9 and 10). (Emphasis added).

Hsu acknowledges that the RTs of *M. xanthus* and *S. aurantiaca* are unique as compared to all other bacterial RTs. Thus, one skilled in the art would be lead away from identifying common amino acid motifs, that are found across all bacterial RTs that synthesize msDNA. One of skill in the art had no motivation to isolate RTs from other bacterial species, such as *E. coli*, and compare these RTs to the ones described in Hsu. Moreover, even if one of skill in the art were motivated to isolate and characterize RTs from other bacterial species, including those disclosed by Lim and Maas, they would not have found a bacterial RT having the amino acid motifs as recited in Claim 1.

Consequently, even if Hsu were hypothetically combined with Lim and Maas, the resulting bacterial RT would fail to have the amino acid residues set forth in Applicants' Claim 1. In view of the foregoing, the Applicants respectfully request withdrawal of the rejection of Claim 1 as unpatentable over Hsu in view of Lim and Maas.

In view of the foregoing, the Applicants respectfully submit that the claims are now in condition of allowance, which is respectfully requested.

Respectfully submitted,


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